CLAIMS

1. Photovoltaic device (1) comprising a plurality of photovoltaic cells (2) of the p-i-n type placed on a substrate (3), characterised in that said cells (2) are placed in the form of a single layer parallel to one another, and in that one layer of conducting wire (7) is placed between the consecutive layer n (6) and the layer p (5) of each cell (2) so as to electrically connect said cells (2) in series.

2. Device according to claim 1, characterised in that the layer n (6) is formed of doped gallium arsenide n, the layer p (5) is formed of doped gallium arsenide p, the layer i (4) is formed of gallium and a layer of conducting wire (7) is formed of copper.

3. Device according to claim 2, characterised in that the thickness of the various layers (4, 5, 6, 7) is approximately the same, for example about 25 Angstroms.

4. Device according to one of claims 1 to 3, characterised in that it further includes a second substrate (9) placed on the first (3) and in contact with the photovoltaic cells (2) so as to protect them.

5. Device according to one of claims 1 to 4, characterised in that means (8) for connecting the device (1) with an external circuit are placed on the substrate (3) and in contact with respectively the layers of conducting wire (7) of the two extreme photo-voltaic cells (2) of the device (1).

6. Device according to one of claims 1 to 5, characterised in that the substrate (3) is formed of a glass plate.

7. Device according to the embodiment 6, characterised in that it is transparent to luminous radiations.

8. Use of a device (1) according to claim 7 as glazing for architectural buildings, in which the substrate (3) is formed by the glazing.

9. Use according to claim 8, characterised in that the photovoltaic cells (2) cover approximately all the surface of the glazing (3);

10. Method for producing a device (1) according to one of claims 1 to 7, wherein

the various layers (4, 5, 6, 7) are placed by means of a vapour phase chemical deposit technique .

11. Method according to claim 10, characterised in that, after preparing the substrate (3) the various layers (4, 5, 6, 7) are deposited by using :

- a first mask whose openings correspond to the conducting wire layers (7),
- a second mask whose openings correspond to the n type layers (6),
- a third mask whose openings correspond to the p type layers (5),
- a fourth mask whose openings correspond to the i type layers (4),

said masks being placed on the substrate (3) so as to allow the layers (4, 5, 6, 7) to be deposited.

12. Method according to claim 11, characterised in that the first, second, third, and fourth masks are used successively.

13. Method according to claim 11 or 12, characterised in that the masks are permanent and made for example of metal, carbon or plastic.

14. Method according to claim 11 or 12, characterised in that the masks are able to be discarded and are made for example of impregnated paper or plastic.

15. Method according to one of claims 10 to 14, characterised in that after depositing the various layers (4, 5, 6, 7), the connection means (8) are placed on the substrate (3).

16. Method according to one of claims 10 to 15, characterised in that it includes a final stage for placing a glass plate (9) on the photovoltaic cells (2).

17. Installation for implementing the method according to one of the claims 10 to 16, said installation comprising a working space in which the substrate (3) is placed, a chamber surrounding the working space, heating means, an insulation of the working space and a cooling chamber.

18. Installation according to claim 17, characterised in that it further includes an additional insulation placed in front of the wall of the chamber.

19. Installation according to claim 18, characterised in that the insulation of the wall of the chamber is embodied with sheets and/or steel plates.

20. Installation according to one of claims 17 to 19, characterised in that the insulation of the working space is constituted by hard felt plates with the graphite sheet

placing impervious to the gases and placed on the lateral walls, the upper covering wall and the front walls, and in that the upper edges and the joints are covered with graphite corner-shaped sections reinforced by carbon fibres.

21. Installation according to claim 20, characterised in that the corner-shaped sections are fitted alternately repeated between the hard felt plates so as to thus provide a labyrinth type imperviousness.

22. Installation according to one of claims 17 to 21, characterised in that the front edges of the insulation of the work space and/or the conjugated surfaces are fixed in the graphite sections reinforced by carbon fibres.

23. Installation according to one of claims 17 to 22, characterised in that partitions are fitted as anti-convection barriers between the insulation of the working space and the insulation of the wall of the chamber.

24. Installation according to claim 23, characterised in that the partitions are made of metal in the form of sheets and/or steel plates.

25. Installation according to one of claims 17 to 24, characterised in that an additional cooling by water is provided between the insulation of the wall of the chamber and the wall of the chamber.

26. Installation according to claim 25, characterised in that the additional water cooling is provided in the upper half of the chamber in the area of the flange and the cover.

27. Method for optically controlling a transparent device (1) according to one of claims 1 to 7, wherein observed on successive narrow strips along one or several segments of a determined line covering the width of the desired examination is the image of the device (1) projected by transparency onto a screen close by which rediffuses it by only illuminating the device (1) on a narrow zone covering said segments of the reading line.

28. Installation for implementing the control method according to claim 27, characterised in that it further includes presentation elements of the device (1) :

- a translucent diffusing screen placed opposite the position of the device (1) as close as reasonably possible so as to particularly avoid the path of the latter concerning its movement in being placed on the installation before being removed.
- a receiver equipped with a linear camera targeting the screen via its rear face,
- a fixed light transmitter placed above the location of the device (1) so as sufficiently

homogeneously illuminate on the screen a narrow zone covering the selected examination segment(s), this preferably being effected by forming a thin spread out beam operating by transparency.

29. Installation according to claim 28, characterised in that the receiver further includes, apart from the camera, a photosensitive element constituted by a diode rectilinear bar.

30. Installation according to claim 29, characterised in that the receiver is provided with a reflecting mirror.

31. Installation according to claim 29, characterised in that the receiver is provided with an optical fibre light guide.

32. Installation according on one of claims 28 to 31, characterised in that the screen is formed of a sheet made of opal or dull glass.

33. Installation according to claim 32, characterised in that the screen comprises a juxtaposition of faces oriented according to a prismatic arrangement along the path in question.

34. Installation according to claim 32, characterised in that the screen has a curved surface.

35. Installation according to one of claims 28 to 34, characterised in that the transmitter is formed of a source of light concentrated and diaphragmed by a slot.

36. Installation according to one of claims 28 to 34, characterised in that the transmitter is formed of at least one projector using an optical system with a linear or punctual source.

37. Installation according to claim 36, characterised in that the transmitter comprises a plurality of projectors which each illuminate a particular section under an adjustable intensity.